

REMARKS

Claims 8, 65 and 66 are pending in the application. Of these, claims 65 and 66 are withdrawn from consideration and claim 8 is rejected.

I. Elections/Restrictions

The Examiner asserts that newly submitted claims 65 and 66 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the seal and linear motion device are related as mutually exclusive species in an intermediate-final product relationship.

Since an action on the merits has already been received for the originally presented invention, the invention of a rubber material composition is considered as having been constructively elected by original presentation by the Examiner and claims 65 and 66 are withdrawn from consideration as being drawn to a non-elected invention.

Applicants respectfully request rejoinder of claims 65 and 66 in accordance with the provisions of MPEP § 821.04 since these claims depend from independent claim 8 and therefore include all elements of the composition.

II. Response to Claim Rejections Under 35 U.S.C. § 103

Claim 8 is rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious over Clark (U.S. Patent No. 4,829,124).

Applicants respectfully submit that Clark does not disclose, teach or suggest the presently claimed invention.

Claim 8 is amended to recite that the rubber material composition of the present invention consists essentially of carboxylated acrylonitrile-butadiene rubber; and 10 to 60 wt parts of polyolefin based resin for 100 wt parts of the carboxylated acrylonitrile-butadiene rubber, wherein the polyolefin based resin is selected from the group consisting of carboxylic modified polyethylene and carboxylic modified polypropylene; and the carboxylated acrylonitrile-butadiene rubber comprises a carboxyl group in an amount of 2×10^{-3} to 5×10^{-2} ephr.

On the other hand, Clark discloses a thermoplastic elastomer comprising (a) carboxylated butadiene-acrylonitrile elastomer, (b) an ethylene/acrylic acid copolymer which had been at least partially neutralized with a metal ion and (c) epoxy crosslinking agent. At column 2, lines 7-12 of Clark, it is disclosed that the ethylene/acrylic acid copolymer must have been at least partially neutralized with a metal ion to provide ionic crosslinking in addition to the dynamic crosslinking with an epoxy crosslinking agent having 2 epoxy moieties. Thus, the composition of Clark is different from that of the present invention. For at least this reason the present invention is not anticipated obvious by Clark. Further, there is no motivation for one of ordinary skill in the art to modify the composition of Clark with a reasonable expectation of success in achieving the present invention. Thus, for at least this reason the present invention is not rendered obvious by Clark.

The difference in the compositions of the present invention and that of Clark as discussed above is significant because due to the ethylene/acrylic acid copolymer which has been at least partially neutralized with the metal being connected to the carboxylated butadiene-acrylonitrile elastomer with an epoxy crosslinking agent, the molecular geometry is changed and the carboxylated acrylonitrile-butadiene elastomer becomes a thermoplastic elastomer. The

thermoplastic elastomer becomes soft when heated, and becomes completely liquid at the melting point. On the other hand, a simple carboxylated butadiene-acrylonitrile elastomer as used in the present invention does not have a melting point and is far from a thermoplastic elastomer. Thus, the present invention is different from that of Clark and there is no motivation to modify the disclosure of Clark with a reasonable expectation of success in achieving the present invention. For this additional reason, the present invention is not anticipated nor rendered obvious by Clark.

Additionally, the carboxylated polyolefin included in the present invention adheres to a reinforcing component in the rubber as described in the present specification at page 20, lines 7-15, and does not react due to the additive crosslinking of the carboxylated butadiene-acrylonitrile rubber. Thus the resulting structure is different from that of Clark. Further, since the carboxyl group of the carboxylated acrylonitrile-butadiene rubber adsorbs to the surface groups such as OH, the mechanical strength of the rubber composition, e.g., tensile strength, abrasion resistance and bending fatigue resistance, is improved. One of ordinary skill in the art would not have reasonably expected such advantageous effects based on the disclosure of Clark. For this additional reason the present invention is not anticipated nor rendered obvious over Clark.

Furthermore, since the ethylene/acrylic acid copolymer which had been at least partially neutralized with a metal ion of Clark includes the metal ion, it is assumed that the metal ion contributes to the crosslinking. In contrast, since the claimed ethylene/acrylic acid copolymer of the present invention is not neutralized with a metal ion, the present invention is definitely different from the disclosure of Clark. For this additional reason the present invention is not anticipated nor rendered obvious by Clark.

Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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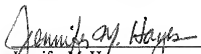
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